

REMARKS

Claims 1–3, 5, 6, 9, 10, and 17–19 stand rejected as allegedly unpatentable in view of Tataryan (US Patent No 6,136,130) and claims 4, 7, 8, 11–16 and 22–29 stand rejected as allegedly unpatentable in view of Tataryan ('130) and Popat (US Patent No. 5,662,976) and further in view of Black (US Patent No. 6,540,131).

Applicant respectfully maintains that the teachings within these references do not show or suggest printable substrates having all of the features of the present invention, either alone or in combination, and that these printable substrates are unobvious in view of these teachings.

More particularly, the teachings within these references, either alone or in combination, do not suggest a print medium with a fold line having two sections in alternating fashion which are:

- 1) microperforated sections with ties between microperforations, and
- 2) non-perforated sections, which are longer than at least one, tie between microperforations.

The combined teachings of the cited references do not even suggest using microperforations in a fold line, let alone a combination of microperforated sections and non-perforated sections.

As discussed previously, Tataryan et al. teaches that microperforations do not provide suitable fold lines for printing at col. 2, lines 27–35. The microperforations are said to provide weakened sheets that did not print reliably. In response to these arguments, the examiner refers to the embodiments disclosed at col. 2, lines 60–63 and col. 2, lines 64–67 of Tataryan et al. These embodiments have perforations with ties greater than 0.01 inch (1/16"(0.0625 inches) & 1/32"(0.03125 inches) and are not microperforations as defined by Tataryan et al. The perforations used in these embodiments also do not conform to the microperforations within the substrates of the present invention, which have cuts and ties less than 0.5 mm

(about 0.02 inches), as defined in the specification. When considering the teachings of Tataryan as a whole, there is no suggestion to use microperforations in a fold line for a printable substrate either in a continuous line or in discontinuous sections.

The secondary references add nothing to suggest to one skilled in the art that the teachings of Tataryan et al. leading away from the use of microperforations be ignored or that microperforations can be used in fold lines without separation during printing. Popat et al. disclose fold lines (82 and 122) comprised of perforations but there is no indication these perforations can comprise microperforations. Popat et al. ('976) does disclose the use of microperforations in the to aid separation of the assembly, not to provide a fold line. The teachings at col. 2, line 51-55 referred to by the examiner relate to the use of microperforations to separate the assembly into sections. There is no indication that microperforations can be used to provide a fold line, such as the one described at col. 4, lines 26-29. Black (US Patent No. 5,662,976), also does not mention the use of microperforations in forming the crease line 6. Black indicates that crease line 6 may comprise "perforations" and non-perforated regions ("stops"). There is no indication or suggestion by Black that microperforations can be used in the fold line and the teachings therein add nothing to the teachings of the combined references to suggest microperforations can provide an effective fold line for printable substrates which does not separate during printing.

Applicants have addressed the problem of separation at a fold line comprised of microperforations by incorporating non-perforated sections along the fold line. Not one of the references suggests using a discontinuous line of microperforations to provide a fold line.

With respect to the issue of equivalency, Applicants maintain the following disclosure at column 2, lines 31-35, of Tataryan et al. is relevant :

"these microperforations form the weakened line across the sheet that was greatly weakened by a fold along the perforations, so that the sheets require less than 1 or 2 kilograms of force for separation, and these weakened sheets did not print reliably following folding and unfolding."

This statement by Tataryan, et. al. suggests that "microperforations" are not equivalent to conventional perforations. No evidence has been presented to show otherwise.

The combined teachings of the cited references provide no hint or suggestion that microperforations (discontinuous or otherwise) can be used to provide a fold line in a printable substrate as defined in the pending claims. Therefore, all pending claims are unobvious.

Claims 10, 12, 15, 16, 22 and 23

Applicants maintain the subject matter of claims 10, 12, 15, 16, 17, 18, 22 and 23 contain features that further distinguish the teachings of the cited references.

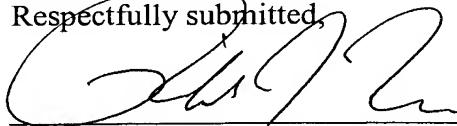
Claim 10 defines a printable substrate as in claim 1 wherein the non-perforated sections comprise from 40 to 60% of the fold line and claim 12 defines a printable substrate as in claim 1 wherein the non-perforated sections have a length of up to 20 % of the width of said print medium. Popat et al. shows the use of non-perforated sections in a fold line but there is no hint the non-perforated sections can comprise over 40 % of the fold line or that the non-perforated sections have a length of up to 20 % of the width of said print medium or that the perforations can comprise microperforations.

Claim 15 and 16 define a printable substrate as in the claim 1, wherein the non-perforated sections are positioned on the fold line so as to be aligned with feed rollers of a preselected printer. Only Popat et al. shows the use of non-perforated sections in a fold line and there is no hint the non-perforated sections be aligned in this manner.

Claims 22 and 23 each define a printable substrate having a fold line with the desired strength characteristics that also allows for printing thereon. None of the references suggest the substrates provided allow for printing on the fold line. Popat et al provides a fold line to form a two-layer laminate from a single sheet of printable substrate. Any printing on the fold line would be difficult if not impossible to read. Therefore, Popat et al. does not suggest printing on the fold line. The language at col.6, lines 55-60 of Popat et al. refers to providing a smooth surface for feeding the assembly. This is a distinct function from accepting print. There is no basis to assume the assembly of Popat et al. will accept print on fold lines with conventional perforations.

In view of the above remarks, favorable reconsideration is courteously requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 14-0225.

Respectfully submitted,


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